## SEQUENCE LISTING

<110> Wilson, James M. Xiao, Weidong	
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Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala 370 380

Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg 385 390 400

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Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser 420 425 430

Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe . 435 440 445

Glu Leu Thr Arg Arg Leu Glu His Asp Phe Gly Lys Val Thr Lys Gln 450 460

Glu Val Lys Glu Phe Phe Arg Trp Ala Gln Asp His Val Thr Glu Val 465 470 475

Ala His Glu Phe Tyr Val Arg Lys Gly Gly Ala Asn Lys Arg Pro Ala 485 490 495

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- Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro 50 60
- Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp 65 70 75 80
- Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg Tyr Asn His Ala 85 90
- Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr Ser Phe Gly Gly 100 105
- Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro 115 120 125
- Leu Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Gly Lys Lys Arg 130 135
- Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly 145 150 155
- Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr 165 170 175
- Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro 180 185 190
- Ala Thr Pro Ala Ala Val Gly Pro Thr Thr Met Ala Ser Gly Gly Gly 195 200 205
- Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala 210 215 220
- Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile 225 230 235
- Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu 255 255
- Tyr Lys Gln Ile Ser Ser Ala Ser Thr Gly Ala Ser Asn Asp Asn His 260 265 270
- Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe 275
- His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn 290 295 300
- Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn 335

310

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro 340 345 350

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala 355 360 365

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly 370

Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro 385 390 395

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe 405 410 415

Glu Glu Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp 420 425 430

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Asn Arg 435 440 445

Thr Gln Asn Gln Ser Gly Ser Ala Gln Asn Lys Asp Leu Leu Phe Ser 450 455

Arg Gly Ser Pro Ala Gly Met Ser Val Gln Pro Lys Asn Trp Leu Pro 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Lys Thr Lys Thr Asp Asn 485 490 495

Asn Asn Ser Asn Phe Thr Trp Thr Gly Ala Ser Lys Tyr Asn Leu Asn 500 505

Gly Arg Glu Ser Ile Ile Asn Pro Gly Thr Ala Met Ala Ser His Lys 515 520 525

Asp Asp Glu Asp Lys Phe Phe Pro Met Ser Gly Val Met Ile Phe Gly 530 540

Lys Glu Ser Ala Gly Ala Ser Asn Thr Ala Leu Asp Asn Val Met Ile 545 550 550

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Arg 575

Phe Gly Thr Val Ala Val Asn Phe Gln Ser Ser Ser Thr Asp Pro Ala 580 585

Thr Gly Asp Val His Ala Met Gly Ala Leu Pro Gly Met Val Trp Gln 595 600 605

Asp Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His 610 620

Thr Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu

625				63																
Lys As			64	5																
Asn Pr		66	0					000												
Gln Ty	67	5					,00													
	90				O	90														
Tyr A. 705				1.	TO															
Tyr T	hr G	lu P	ro A	rg P. 25	ro I	le (	Gly	Thr	Arg 730	ТУ	Le	eu T	hr.	Arg	Pro 735	b L	eu			
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gag G	ac c His I	eu I	ccg ( Pro (	ggc a	att Ile	tct Ser	gac Asp	tcg Ser 25	tt: Ph	t gt e Va	g a	gc er	tgg Trp	gte Va: 30	g gc l Al	a (	gag Glu			96
aag (	Glu 7	gg 9 Erp 0	gag Glu	ctg Leu	ccc Pro	ccg Pro	gat Asp 40	tct Sei	ga r As	c at p Me	g g et A	at Asp	ctg Leu 45	aa As	t ct n Le	g eu	att Ile	•	1	44
gag Glu			ccc Pro	ctg Leu	acc Thr	gtg Val 55	gcc Ala	gae a Gl	g aa u Ly	g c	tg c eu C	cag Sln 60	cgc Arg	ga As	c tt p Pl	ic ne	ctg Leu		1	.92
		tgg Trp	cgc Arg	cgc Arg	gtg Val 70	agt Ser	aaq Ly:	g gc s Al	c co a Pı	cg g co G 7	_	gcc Ala	cto	: tt ı Ph	c t ie P	tt he	gtt Val 80		2	240
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acc Thr	acg Thr	GJ À GG À	gtc Val 100	aaa Lys	tcc Ser	ato Met	g gt t Va	g ct 1 Le 10	-u -	gc c ly <i>P</i>	gc Arg	ttc Phe	ct:	g ag u Se 1	gt c er G 10	ag In	att	E -		336

agg Arg	gac Asp	aag Lys 115	ctg Leu	gtg Val	cag Gln	Thr	atc Ile 120	tac Tyr	cgc Arg	GJ A GGG	atc Ile	gag Glu 125	ccg Pro	acc Thr	c L	tg eu	384
Pro	Asn 130	Trp	Phe	Ala	val	acc Thr 135	гур	1111	ALG	11011	140		-				432
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act Thr	cag Gln	ccc Pro	gag Glu	ctg Leu 165	cag Gln	tgg Trp	gcg Ala	tgg Trp	act Thr 170	aac Asn	atg Met	gag Glu	gag Glu	ta: Ty: 17:	t a r :	ata Ile	528
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ctg Leu	acc Thr	cac His 195	Val	agc Ser	cag Gln	acc Thr	cag Gln 200	gag Glu	cag Gln	aac Asn	aag Lys	gag Glu 205		ct Le	g u	aac Asn	624
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atg Met 225	Glu	ctg Leu	gtc Val	GJY	tgg Trp 230	ctg Leu	gtg Val	gac Asp	cgg Arg	ggc Gly 235		acc Thr	: tcc :Ser	ga Gl	g .u	aag Lys 240	720
cag Gln	tgg Trp	ato Ile	cag Gln	gag Glu 245	ı Asp	cag Gln	gcc	tcg Ser	tac Tyr 250		tco Sei	tto Phe	aac Asr	g g c n Al 25		gct Ala	768
tcc Ser	aac Asn	tco Sei	g cgg Arg 260	, Ser	cag Gln	atc Ile	aaç Lys	g gcc Ala 265	HIO	ctg Lev	g gad 1 Asj	c aat p Asi	gce n Ala 27	c gg a G]	ly	aag Lys	816
ato Ile	ato Met	gcç Ala 27	a Let	g aco ı Thi	c aaa c Lys	tcc Ser	gcg Ala 280	1 PIC	gac Asp	tac Tyi	c cto	g gta u Va 28		с со у Р:	ro	gct Ala	864
Pro	g cco Pro 290	Ala	g gad a Asj	c att	t aaa e Lys	a acc s Thr 295	AS	c cgo	c ato	tac Ty:	c cg r Ar 30	9	c ct e Le	g g u G	ag lu	ctg Leu	912
aad Asi 30!	n Gl	c ta y Ty	c ga r Gl	a cci u Pro	t gco o Ala 31	c tac a Tyi	gc Al	c gg a Gl	c tc y Se	c gt r Va 31		t ct e Le	c gg u Gl	c t y T	gg rp	gcc Ala 320	960
ca Gl:	g aa n Ly	a ag s Ar	g tt g Ph	c gg e G1 32	А гА	g cg	c aa g As	c ac n Th	c at r Il 33	C 11	g ct p Le	g tt eu Ph	t gg e Gl	- 4	cg ro 35	gcc Ala	1008
ac Th	c ac r Th	g gg r Gl	с аа у Ly 34	's Th	c aa r As	c at	c gc e Al	g ga a G1 34	.u .n	c at a Il	c go e Al	cc ca La Hi		ec g La V 50	jtg /al	ccc Pro	1056

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	ttc f	ľyr	ggc Gly 355	tgc Cys	gtc Val	aac Asn	tgg Trp	acc Thr 360	aat Asn	gag Glu	aac Asn	ttt Phe	ccc Pro 365	ttc Phe	aat Asn	gat Asp		1104
	tgc Cys	gtc Val 370	gac Asp	aag Lys	atg Met	gtg Val	atc Ile 375	tgg Trp	tgg Trp	gag Glu	gag Glu	ggc Gly 380	aag Lys	atg Met	acg Thr	gcc Ala		1152
	aag Lys 385	gtc Val	gtg Val	gag Glu	tcc Ser	gcc Ala 390	aag Lys	gcc Ala	att Ile	ctc Leu	ggc Gly 395	ggc Gly	agc Ser	aag Lys	gtg Val	cgc Arg 400		1200
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	Ile	Val	Thr	Ser 420	Asn	Thr	Asn	atg Met	425	Ala	Val		пор	430				1296
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	ccc Pro	gat Asp	gac Asp	gcg Ala 500	Asp	aaa Lys	agc Ser	gag Glu	Pro 505	, гу	g cgg Arg	g gco	tgo a Cys	: ccc Pro 510		gtc Val	<b>!</b> . ·	1536
*	gcg Ala	gat Asp	cca Pro 515	Ser	acg Thr	tca Ser	gac : Asp	gcg Ala 520	CTL	ı gga	a gct / Ala	a Pro	g gto 525		ttt Phe	gco Ala	1	1584
	gac Asp	agg Arg 530	Tyr	caa Gln	aac Asr	: aaa Lys	tgt Cys 53!	t tct s Sei	cgt Arc	cac g His	c gc	g gg a Gl 54	y ric	g cti t Lei	t caq u Gli	g ato	3 : =	1632
	ctg Leu 545	Phe	cce Pro	tgo Cys	aaq Lys	g aca Thi 550	r Cy	c gaq s Gli	g aga	a ato	g aa t As: 55	11 01	g aa n As:	t tt n Ph	c aa e As:	c att n Ile 56		1680
	tgc Cys	tto Phe	acç Thi	g cad r His	ggg Gl <sub>2</sub> 56	y Thi	g ag r Ar	a ga g Asj	c tg p Cy	t tc s Se 57	r Gr	g tg u Cy	c tt s Ph	c cc e Pr	c gg o Gl 57	7	g 1	1728
	tca Sei	a gaa c Gli	a to u Se	t caa r Gli 580	n Pr	g gt o Va	c gt l Va	c ag l Ar	a aa g Ly 58	S AL	g ac g Th	g ta r Ty	t cg r Ar	g aa g Ly 59	5 20	c tg u Cy	t s	1776

- Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala 255 255
- Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys 260 265 270
- Ile Met Ala Leu Thr Lys Ser Ala Pro Asp Tyr Leu Val Gly Pro Ala 275 280 285
- Pro Pro Ala Asp Ile Lys Thr Asn Arg Ile Tyr Arg Ile Leu Glu Leu 290 295
- Asn Gly Tyr Glu Pro Ala Tyr Ala Gly Ser Val Phe Leu Gly Trp Ala 305 310 315
- Gln Lys Arg Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala 325
- Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Ala Val Pro 340 345
- Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp 365
- Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala 370 380
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- Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val 405 410 415
- Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser 420 425 430
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- Glu Leu Thr Arg Arg Leu Glu His Asp Phe Gly Lys Val Thr Lys Gln 450 455
- Glu Val Lys Glu Phe Phe Arg Trp Ala Gln Asp His Val Thr Glu Val 465 470 475
- Ala His Glu Phe Tyr Val Arg Lys Gly Gly Ala Asn Lys Arg Pro Ala 485 490 495
- Pro Asp Asp Ala Asp Lys Ser Glu Pro Lys Arg Ala Cys Pro Ser Val 500 505 510
- Ala Asp Pro Ser Thr Ser Asp Ala Glu Gly Ala Pro Val Asp Phe Ala 515 520 525
- Asp Arg Tyr Gln Asn Lys Cys Ser Arg His Ala Gly Met Leu Gln Met 530
- Leu Phe Pro Cys Lys Thr Cys Glu Arg Met Asn Gln Asn Phe Asn Ile 545 550 555 560

Cys Phe Thr His Gly Thr Arg Asp Cys Ser Glu Cys Phe Pro Gly Val 565 Ser Glu Ser Gln Pro Val Val Arg Lys Arg Thr Tyr Arg Lys Leu Cys 580 Ala Ile His His Leu Leu Gly Arg Ala Pro Glu Ile Ala Cys Ser Ala 595 Cys Asp Leu Val Asn Val Asp Leu Asp Asp Cys Val Ser Glu Gln 615 610 <210> 6 1641 <211> DNA <212> AAV-1 <213> <220> CDS <221> (1)..(1638) <222> <223> atg ccg ggc ttc tac gag atc gtg atc aag gtg ccg agc gac ctg gac 48 Met Pro Gly Phe Tyr Glu Ile Val Ile Lys Val Pro Ser Asp Leu Asp gag cac ctg ccg ggc att tct gac tcg ttt gtg agc tgg gtg gcc gag 96 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Ser Trp Val Ala Glu aag gaa tgg gag ctg ccc ccg gat tct gac atg gat ctg aat ctg att 144 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile 35 gag cag gca ccc ctg acc gtg gcc gag aag ctg cag cgc gac ttc ctg 192 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu 50 gtc caa tgg cgc cgc gtg agt aag gcc ccg gag gcc ctc ttc ttt gtt 240 Val Gln Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val 70 65 cag ttc gag aag ggc gag tcc tac ttc cac ctc cat att ctg gtg gag 288 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Leu His Ile Leu Val Glu acc acg ggg gtc aaa tcc atg gtg ctg ggc cgc ttc ctg agt cag att Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile 336 105 100 agg gac aag ctg gtg cag acc atc tac cgc ggg atc gag ccg acc ctg 384 Arg Asp Lys Leu Val Gln Thr Ile Tyr Arg Gly Ile Glu Pro Thr Leu 120 115 ccc aac tgg ttc gcg gtg acc aag acg cgt aat ggc gcc gga ggg 432 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly 135 130

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	act Thr	cag Glr	r Pr	c g	lu .	ctg Leu 165	cag Gln	tgg Trp	gcg Ala	tgg Trp	act Thr 170	aac Asn	ato Me	g ga t G	ag g lu G	gag Slu	tat Tyr 175	ata Ile	a e		528
	agc Ser	gco	t to	ys L	tg eu 80	aac Asn	ctg Leu	gcc Ala	gag Glu	cgc Arg 185	aaa Lys	cgg Arg	ct Le	cg uV	tg q al <i>l</i>	gcg Ala 190	cag Gln	ca Hi	c s		576
	ctg Leu	aco Th:	r H	ac ç is \	gtc /al	agc Ser	cag Gln	acc Thr	cag Gln 200	gag Glu	cag Gln	aac Asn	aa Ly	g g s G 2	ag 1u 105	aat Asn	ctg Leu	aa As	c n		624
	ccc	: aa : As: 21	t t n S		gac Asp	gcg Ala	cct Pro	gtc Val 215	atc Ile	cgg Arg	tca Ser	aaa Lys	a ac s Th 22		cc Ser	gcg Ala	cgc	ta Ty	c r		672
	ato Met	g ga : Gl		tg (	gtc Val	ej A aaa	tgg Trp 230	ьeu	gtg Val	gac Asp	cgg Arg	gg Gly 23	<u>,</u>	c a Le T	acc Thr	tcc Ser	gaç Glu	aa Ly 24	ng 75 10		720
			g a	tc le	cag Gln	gag Glu 245	Asp	cag Gln	gcc Ala	tcg Ser	tac Tyr 250		c to e Se	cc t er l	ttc Phe	aac Asn	gco Ala 25	g g c a Al	ct La		768
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ş ·	cc Pr	o Pi			gac Asp	att	aaa Lys	a acc s Thi	c aac r Asr 5	cgo Arg	at g Il	c ta e Ty	c c r A	gc rg	atc Ile	cto	g ga ı Gl	g c u L	tg eu	·	912
	aa As	c g		tac Tyr	gaa Glu	cci Pro	t gc o Ala	агу	c gco r Ala	c gg a Gl	c tc y Se		c t al P 15	tt	ctc Leu	gg Gl	tg y Tr	g g p A	icc la 320		960
	ca G1	ig a .n L	aa ys	 agg Arg	tto Phe	gg Gl 32	у гу	g cg s Ar	c aa g As:	c ac n Th	c at r Il 33		gg o	ctg Leu	ttt Phe	gg Gl	g co y Pi 33	g 9 50 <i>P</i> 85	JCC Ala		1008
÷ ,	a c Tl	cc a	.cg hr	ggc Gly	aaq Ly:	s Tn	c aa r As	c at n Il	c gc e Al	g ga a Gl 34	. u	cc a La I	tc q le <i>l</i>	gcc Ala	cac	gc s Al 35	c gt a Va 0	ig o	ccc Pro		1056
	t: Pi	tc t he T	ac 'yr	ggc Gly 355	Су	c gt s Va	c aa l As	ic to in Tr	g ac p Th	IL A	it ga sn G	ag a lu A	ac .sn	ttt Phe	ecc Pro 36	e tt o Ph	c a	at o	gat Asp		1104
	t	ys \	gtc Val 370	gac Asp	aa Ly	g at s Me	g gt et Va	3T T-	ic to Le Ti 75	g to	gg g rp G	ag g lu G		ggc Gly 380		g at s Me	g a et T	cg hr	gcc Ala		1152

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	gac Asp	caa Gln	aag Lys	tgc Cys 405	aag Lys	tcg Ser	tcc Ser	gcc Ala	cag Gln 410	atc Ile	gac Asp	Pro	acc (	ccc Pro 415	gtg Val	-	1248
atc Ile	gtc Val	acc Thr	tcc Ser 420	aac Asn	acc Thr	aac Asn	atg Met	tgc Cys 425	gcc Ala	gtg Val	att Ile	gac Asp	ggg Gly 430	aac Asn	ago Se:	: :	1296
acc Thr	acc Thr	ttc Phe	gag Glu	cac His	cag Gln	cag Gln	ccg Pro 440	ttg Leu	cag Gln	gac Asp	cgg Arg	atg Met 445	ttc Phe	aaa Lys	tt' Ph	t e	1344
gaa Glu	ctc Leu 450	aco Thi		cgt Arg	ctg Leu	gag Glu 455	cat His	gac Asp	ttt Phe	ggc Gly	aag Lys 460	gtg Val	aca Thr	aag Lys	ca Gl	g n	1392
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cco	ga <sup>†</sup> Asj	t ga p As	c gcg p Ala	g gat a Ası		a ago s Ser	gaç Glu	g ccc i Pro 50		g cgg s Arg	g gc	c tgc a Cys	Pro 510	t ca Se	agt rVa	al	1536
gc Al	g ga a As	t cc p Pr 51	a tc		g tca r Se	a gad r Asp	gco Ala		a gg u Gl	a gc y Ala	t cc a Pr	g gtg o Val 525	gac Asp	tt' Ph	t g	cc la	1584
ga As	c ag p Ar 53	g ta		c tg y Cy	c cg s Ar	a tgg g Trj 53	, ne	a tc u Se	t tc r Se	c ag r Ar	a tt g Le 54	g gct u Ala 0	cga Arç	gg Gl	ас у G	aa ln	1632
	t ct	c to	ga														1641
<2 <2	210> 211> 212> 213>	7 54 PR AA														·(o	
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L	ys G	ilu T	rp G	lu I	eu P	ro P	ro A 4	sp S 0	er A	sp M	et A	sp Le	eu As 5	sn L	eu	Ile	

- Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu 50 60
- Val Gln Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val 65 70 75 80
- Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Leu His Ile Leu Val Glu 85 90 95
- Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile 100 105 110
- Arg Asp Lys Leu Val Gln Thr Ile Tyr Arg Gly Ile Glu Pro Thr Leu 125
- Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly 130
- Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys 145 150 150
- Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Glu Tyr Ile 165 170 175
- Ser Ala Cys Leu Asn Leu Ala Glu Arg Lys Arg Leu Val Ala Gln His 180 185 190
- Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Leu Asn 195 200 205
- Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr 210 215
- Met Glu Leu Val Gly Trp Leu Val Asp Arg Gly Ile Thr Ser Glu Lys 225 230 235 240
- Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala 245 250 250
- Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys . 260 265 270
- Ile Met Ala Leu Thr Lys Ser Ala Pro Asp Tyr Leu Val Gly Pro Ala 275 280 285
- Pro Pro Ala Asp Ile Lys Thr Asn Arg Ile Tyr Arg Ile Leu Glu Leu 290 295 300
- Asn Gly Tyr Glu Pro Ala Tyr Ala Gly Ser Val Phe Leu Gly Trp Ala 305 310 315
- Gln Lys Arg Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala 325
- Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Ala Val Pro 340
- Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp 365

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	385		Val			390			,		3,75							
			Gln		405					410								
			Thr	420					423									
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	Glu 465		Lys	Glu	Phe	Phe 470	Arg	Trp	Ala	Gln	Asp 475	His	Val	Thr	Glu	Val 480		
-3:-	Ala	His	Glu	Phe	Tyr 485	Val	Arg	Lys	Gly	Gly 490	Ala	Asn	Lys	Arg	Pro 495	Ala		
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	Ala	Asp	Pro 515		Thr	: Ser	Asp	Ala 520	Glu	Gly	Ala	Pro	Va]	Asp	) Phe	e Ala		
. :	Asp	Arg 530		Gly	Cys	Arg	Trp 535	Lev	ı Ser	Ser	Arg	J Leu 540	ı Ala	a Arg	g Gly	/ Gln		
	Pro 545	Leu i	1															
			8 1200 DNA AAV															
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	ca Gl	g tg n Tr	g at p Il	с са e Gl 20	n Gl	g ga u As	c ca p Gl	g gc n Al	c to a Se 25	TTA	c at	c to e Se	c tt	c aa ie As 30		c gct a Ala		96
	tc Se	c aa r As	nc to n Se 35	r Ar	g to	c ca r Gl	g at n Il	.c aa .e Ly 40	S AI	c go .a Al	t ct a Le	g ga eu As	ic aa sp As 45		c gg a Gl	gc aag Ly Lys	J s	144

atc Ile	atg Met 50	gcg Ala	ctg Leu	acc Thr	aaa Lys	tcc Ser 55	gcg Ala	ccc Pro	gac Asp	tac Tyr	ctg Leu 60	gta Val	ggc Gly	ccc Pro	gct Ala		192
ccg Pro 65	ccc Pro	gcg Ala	gac Asp	att Ile	aaa Lys 70	acc Thr	aac Asn	cgc Arg	atc Ile	tac Tyr 75	cgc Arg	atc Ile	ctg Leu	gag Glu	ctg Leu 80		240
aac Asn	ggc Gly	tac Tyr	gaa Glu	cct Pro 85	gcc Ala	tac Tyr	gcc Ala	ggc Gly	tcc Ser 90	gtc Val	ttt Phe	ctc Leu	ggc Gly	tgg Trp 95	gcc Ala		288
cag Gln	aaa Lys	agg Arg	ttc Phe 100	Gly	aag Lys	cgc Arg	aac Asn	acc Thr 105	atc Ile	tgg Trp	ctg Leu	ttt Phe	ggg Gly 110	ccg Pro	gcc Ala		336
acc Thr	acg Thr	ggc Gly 115	Lys	acc Thr	aac Asn	atc Ile	gcg Ala 120	gaa Glu	gcc Ala	atc Ile	gcc Ala	cac His 125		gtg Val	Pro		384
ttc Phe	tac Tyr 130	Gly	tgc Cys	gtc Val	aac Asn	tgg Trp 135	Thr	aat Asn	gag Glu	aac Asn	ttt Phe 140		ttc Phe	aat Asn	gat Asp		432
tgc Cys 145	Val	gac	aag Lys	atg Met	gtg Val 150	тте	tgg Trp	tgg Trp	gag Glu	gag Glu 155	. 013	aag Lys	atg Met	acg Thr	gcc Ala 160		480
aag Lys	gtc Val	gtg Val	gag Glu	tcc Ser 165	Ala	aag Lys	gcc Ala	att	cto Leu 170	GLY	ggc Gly	agc Ser	aag Lys	gtg Val 175	g cgc L Arg	٠	528
gtg Val	gac Asp	caa Glr	aag Lys 180	Cys	: aag : Lys	tcg Ser	tcc Ser	gcc Ala 185	GII	ato Ile	gac Asp	e ccc	acc Thr 190		gtg Val		576
ato Ile	gto Val	aco L Thi	s Sei	aac Asn	acc Thr	aac Asr	ato Met 200	Cys	gco Ala	gto Val	g att L Ile	gad Asp 205		y aad y Asi	agc n Ser		624
acc Thi	c acc	r Phe	c gaq e Glu	g cad u His	c caç s Glr	g cag n Gli 21	n Pro	g tto Lev	g caq ı Glı	g gad n Asj	p Are	9	g tto t Pho	c aa e Ly	a ttt s Phe		672
ga: G1: 22:	ı Le	c äc u Th	c cg r Ar	c cgt g Ar	t cto g Let 23	ı Gl	g cat u Hi:	t gad s Asj	e tt p Ph	t gg e Gl 23	ληλ	g gt s Va	g ac	a aa r Ly	g cag s Gln 240	. *	720
ga Gl	a gt u Va	c aa l Ly	a ga s Gl	g tte u Phe 24	e Pn	c cg e Ar	c tg g Tr	g gc p Al	g ca a Gl 25	11 713	t ca p Hi	c gt s Va	g ac l Th	c ga r Gl 25	g gtg u Val	:	-768
gc Al	g ca a Hi	t ga s Gl	g tt u Ph 26	е Ту	c gt r Va	c ag l Ar	a aa g Ly	g gg s Gl 26	у ст	a go y Al	c aa a As	c aa n Ly	a ag s Ar 27	9	c gcc o Ala		816
cc Pr	c ga o As	t ga p As 27	p Al	g ga .a As	t aa p Ly	a ag s Se	c ga r Gl 28	u Pr	c aa o Ly	g cg 's Ar	g Al	c to a Cy 28		c to	ca gto er Val	<b>:</b> -	864

gcg Ala	gat Asp 290	cca Pro	tcg Ser	acg Thr	ser	gac Asp 295	gcg Ala	gaa Glu	gga Gly	gct Ala	ccg Pro 300	gtg Val	gac Asp	t t t Pho	cg ≥A	cc la	912
gac Asp 305	agg Arg	Tyr	Gln	Asn	Lys 310	cys	Ser	ALG	1115	315	,				3	20	960
ctg Leu	ttt Phe	ccc Pro	tgc Cys	aag Lys 325	aca Thr	tgc Cys	gag Glu	aga Arg	atg Met 330	aat Asn	cag Gln	aat Asn	ttc Phe	aa As 33	ca nI 5	lt le	1008
tgc Cys	ttc Phe	acg Thr	cac His 340	Gly	acg Thr	aga Arg	gac Asp	tgt Cys 345	tca Ser	gag Glu	tgc Cys	ttc Phe	Pro 350	gg Gl	у <sup>ў</sup>	gtg Val	1056
tca Ser	gaa Glu	tct Ser 355	Gln	ccg Pro	gtc Val	gtc Val	aga Arg 360	Дуо	agg Arg	acg Thr	tat Tyr	cgg Arg 365	aaa Lys	ct Le	c eu	tgt Cys	1104
gcc Ala	att Ile 370	cat His		ctg Leu	ctg Leu	ggg Gly 375	cgg Arg	gct Ala	ccc Pro	gag Glu	att Ile 380	gct	tgo Cys	to s Se	cg er	gcc Ala	1152
tgc Cys 385	gat Asp		g gtc Val	aac Asn	gtg Val 390	Asp	ctg Leu	gat Asp	gac Asp	tgt Cys 395		tct Sei	gaq Gli	g ca u Gi	aa ln	taa	1200
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<21 <21 <21 <40 Met 1 Glr	1> 2> 3> 00> Glun Tr	PRT AAV- 9 Let	e Gli 20 r Ar	5 n Gli g Se	ı Asp	o Gla	n Ala e Ly 40	a Sei 25 s Ala	r Ty	r Ile	e Se u As	r Ph p As 45	e As 30 n Al	n A	ala Sly	Ala Lys	
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Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala 145 150 150

Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg 165 170 175

Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val 180 185 190

Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser 195 200 205

Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe 210 220

Glu Leu Thr Arg Arg Leu Glu His Asp Phe Gly Lys Val Thr Lys Gln 225 230 235 240

Glu Val Lys Glu Phe Phe Arg Trp Ala Gln Asp His Val Thr Glu Val 245 250 255

Ala His Glu Phe Tyr Val Arg Lys Gly Gly Ala Asn Lys Arg Pro Ala 260 265 270

Pro Asp Asp Ala Asp Lys Ser Glu Pro Lys Arg Ala Cys Pro Ser Val 275 280 285

Ala Asp Pro Ser Thr Ser Asp Ala Glu Gly Ala Pro Val Asp Phe Ala 290 295 300

Asp Arg Tyr Gln Asn Lys Cys Ser Arg His Ala Gly Met Leu Gln Met 320

Leu Phe Pro Cys Lys Thr Cys Glu Arg Met Asn Gln Asn Phe Asn Ile 325 330 335

Cys Phe Thr His Gly Thr Arg Asp Cys Ser Glu Cys Phe Pro Gly Val 340 345 350

Ser Glu Ser Gln Pro Val Val Arg Lys Arg Thr Tyr Arg Lys Leu Cys 355 360 365

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gaa Glu	gtc Val	aaa Lys	gag Glu	ttc Phe 245	ttc Phe	cgc Arg	tgg Trp	gcg Ala	cag Gln 250	gat Asp	cac His	gtg Val	acc Thr	gag Glu 255	gtg Val		768
gcg Ala	cat His	gag Glu	ttc Phe 260	Tyr	gtc Val	aga Arg	aag Lys	ggt Gly 265	GL y	gcc Ala	aac Asn	aaa Lys	aga Arg 270	Pro	gco Ala	; 1	816
ccc Pro	gat Asp	gac Asp 275	gcg Ala	gat Asp	aaa Lys	agc Ser	gag Glu 280		aag Lys	cgg Arg	gcc Ala	tgc Cys 285	ccc Pro	tca Ser	gto Val	; L	864
gcg Ala	gat Asp 290	Pro	tcg Ser	acg Thr	tca Ser	gac Asp 295	Ala	gaa Glu	gga Gly	gct Ala	cçg Pro 300		gac Asp	ttt Phe	gc Ala	a ·	912
gac Asp 305	agg Arg		ggc Gly	tgc Cys	cga Arg 310	Trp	tta Lev	tct Sei	tco Ser	aga Arg 315	, –	gct Ala	cga Arg	gga Gl	a ca y Gl 32	a n O	960
cct	cto Lev	_	à														969
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<2: <2:	20> 21> 22> 23>	(94	c_fe 3) or s	(944	)	te											
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Gl	n Tr	p Il	e Gl. 20	n Gl	u As	p Gl	n Al	a Se. 25	r Ty	r Il	e Se	r Ph	e As 30	n Al	La A	la	
Se	r As	n Se	er Ar	g Se	er Gl	n Il	e Ly	/s Al	a Al	a Le	eu As	sp As	n Al	.a G	ly L	ys	
11	.е Ме		La Le	eu Th	ır Li	/s Se 55	er Al	La Pi	co As	sp Ty	r Le 60	eu Va )	al Gl	Ly P	ro A	la	
P1 65		co Ai	la As	sp II	le Ly	ys Tł O	r As	sn A	rg I	le Ty	yr Ai 5	rg II	le Le	eu G	lu I 8	eu 0	
A	sn G	ly T	yr G	lu P: 8:	ro Al	la Ty	yr A	la G	ly S	er V	al P	he L	eu G	lу Т 9	rp A	la	

- Gln Lys Arg Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala 100 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Ala Val Pro Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp 135 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala 150 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg 165 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val 180 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser 200 195 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe Glu Leu Thr Arg Arg Leu Glu His Asp Phe Gly Lys Val Thr Lys Gln 225 Glu Val Lys Glu Phe Phe Arg Trp Ala Gln Asp His Val Thr Glu Val Ala His Glu Phe Tyr Val Arg Lys Gly Gly Ala Asn Lys Arg Pro Ala Pro Asp Asp Ala Asp Lys Ser Glu Pro Lys Arg Ala Cys Pro Ser Val Ala Asp Pro Ser Thr Ser Asp Ala Glu Gly Ala Pro Val Asp Phe Ala Asp Arg Tyr Gly Cys Arg Trp Leu Ser Ser Arg Leu Ala Arg Gly Gln
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	gag Glu	ggc Gly	att Ile	cgc Arg 20	gag Glu	tgg Trp	tgg Trp	Yah	ttg Leu 25	aaa Lys	cct Pro	gga Gly	gcc Ala	ccg Pro 30	aag Lys	Pro		96
	aaa Lys	gcc Ala	aac Asn 35	cag Gln	caa Gln	aag Lys	cag Gln	gac Asp 40	gac Asp	ggc Gly	cgg Arg	ggt Gly	ctg Leu 45	gtg Val	ctt Leu	cct Pro		144
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	gtc Val 65		gcg Ala	gcg Ala	gac Asp	gca Ala 70	gcg Ala	gcc Ala	ctc Leu	gag Glu	cac His 75	gac Asp	aag Lys	gcc Ala	tac Tyr	gac Asp 80	ž.	240
	cag Gln	cag Gln	ctc Leu	aaa Lys	gcg Ala 85	ggt Gly	gac Asp	aat Asn	ccg Pro	tac Tyr 90	ctg Leu	cgg Arg	tat Tyr	aac Asn	cac His 95	gcc Ala		288
	gac Asp	gcc Ala	gag Glu	ttt Phe 100	GIn	gag Glu	cgt Arg	ctg Leu	caa Gln 105	gaa Glu	gat Asp	acg Thr	tct Ser	ttt Phe 110	GJA	ggc		336
	aac Asn	ctc Leu	ggg Gly 115	Arg	gca Ala	gtc Val	ttc Phe	cag Gln 120	Ала	aag Lys	aag Lys	cgg Arg	gtt Val 125		gaa Glu	cct		384
(¥)	ctc Leu	ggt Gly	ctg Leu		gag Glu	gaa Glu	ggc Gly 135	Ald	aag Lys	acg Thr	gct Ala	cct Pro 140	2	aag Lys	aaa Lys	cgt Arg		432
	ccg Pro 145	Va]	a gaç L Glu	cag Gln	tcg Ser	cca Pro	GII	gag Glu	g cca 1 Pro	gac Asp	tco Ser 155		tcg Ser	: Gl/	ato / Ile	ggc Gly 160		480
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•	Gl/	ga As	n Sei	r Glı	g tca u Sei	r Va.	L Pro	O ASI	t cca p Pro 185	, 611	a cct	cto Lev	c gga u Gl	a gaa y Gl		t cca o Pro	· .	576
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,	gc. Al	a cc a Pr 21	o Me	g gc t Al	a ga a As	c aa p As	t aa n As 21	n Gr	a ggo u Gl	c gc y Al	c ga a As	c gg p Gl 22		g gg l Gl	t aa y As	t gcc n Ala	:	672
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			ec aç nr Se	c ac r Th	c cg r Ar	c ac	c to	p Al	c tt La Le	g co u Pr	c ac	c ta ir Ty	ıc aa ır As	at aa sn As	ac ca sn Hi	ac cto is Le	z u	768
									•									
									•									

														226	car			816
	Lys	Gln	11e 260	Ser	Ser.	Ата	SEL	265	OLY				270					
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cac His	tgc Cys 290	cac His	ttt Phe	tca Ser	cca Pro	cgt Arg 295	gac Asp	tgg Trp	cag Gln	cga Arg	ctc Leu 300	atc Ile	aac Asn	aac Asn	aa As	t n		912
tgg Trp 305	gga Gly	ttc Phe	cgg Arg	ccc Pro	aag Lys 310	aga Arg	ctc Leu	aac Asn	ttc Phe	aaa Lys 315	ctc Leu	ttc Phe	aac Asn	atc Ile	са Gl 32	a n 0		960
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gac Asp	gtg Val	ttc Phe	atg Met	att Ile	ccg Pro	caa Gln 375	TAT	: ggc	tac Tyr	ctç Lev	acq Thi		c aad u Asi	aat n Asi	t go	gc ly		1152
ago Ser 385	caa Glr		gtg a Val	. Gly	cgt Arg 390	ser	tco Sei	ttt Phe	tac Tyi	tgc Cys 395		g gaa u Gl	a ta u Ty	t tt r Ph	с с е Р 4	ct ro 00	•	1200
		g ato n Me	g cto t Lev	g aga ı Arq 405	a acc		aa Ası	c aad n Asi	c ttt n Phe 410		c tt r Ph	c ag e Se	c ta r Ty	c ac r Th 41	c t r P	tt he		1248
ga Gl	g ga u Gl	a gt u Va	g cci 1 Pro 42	t tte		c ago s Se	c ag r Se	c ta r Ty 42	L AL	g ca a Hi	c ag s Se	c ca r Gl	g ag n Se 43	c ct r Le 0	g g eu A	lac Asp		1296
cg Ar	g ct g Le		g aa t As		t ct	c at	c ga e As 44	P 01	a ta n Ty	c ct r Le	g ta u Ty	t ta r Ty 44	c ct r Le 15	g aa u As	ac a sn A	iga Arg		1344
ac Th	t ca r Gl 45	a aa n As	t ca n Gl	g tc n Se	c gg r Gl	a ag y Se 45	T 7.1	c ca a Gl	a aa n As	c aa n Ly	ng ga vs As 40	ac tt sp Le	cg ct eu Le	ig th	tt a	agc Ser	٠	1392
cg Ar 46	rt gg g Gl		t co er Pr	a gc o Al	t gg .a Gl 47	.у ме	g to	t gt er Va	t ca al Gl		cc as co Ly	aa aa ys A	ac to sn T	gg c rp L	ta eu	cct Pro 480		1440
		cc to	gt ta ys Ty	at co yr Ai	gg ca	ig ca In Gl	ig co	gc gt rg Va	tt to al Se	et aa er Lj	aa a ys T	ca a hr L	aa a ys T	ca g hr A	ac .sp	aac. Asn		1488

				485					490						495			
aac Asn	aac Asn	agc Ser	aat Asn 500	ttt Phe	acc Thr	tgg Trp	act Thr	ggt Gly 505	gct Ala	tc Se	a aa r Ly	aa t ys T	at a Yr A	aac Asn 510	ctc Leu	aa As	t n	1536
Gly ggg	cgt Arg	gaa Glu 515	tcc Ser	atc Ile	atc Ile	aac Asn	cct Pro 520	ggc Gly	act Thr	gc	t a a M	tg g et A	gcc Ala 525	tca Ser	cac His	aa Ly	a 'S	1584
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	gac Asp	gaa Glu	gag Glu	gaa Glu 565	att Ile	aaa Lys	gcc Ala	act	: aa : As: 57		ct o	gtg /al	gcc Ala	acc Thr	gaa Glu 575	a A	ga rg	1728
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acc Thr	gga Gly	gat Asp 595	gto Val		gct Ala	atg Met	gga : Gly	, , , , , ,	a tt a Le	a c u P	ct (	ggc Gly	atg Met 605	gtg Val	tg:	g c p G	aa ln	1824
gat Asp	aga Arg	gac Asp		g tac L Ty	cto Lev	g cag Glr 615	1 01)	e cc	c at	t t e I	gg Trp	gcc Ala 620	aaa Lys	att Ile	cci Pr	t c	ac lis	1872
aca Thi 625	gat Asp		a ca y Hi	c tt s Pho	t cad e His	S PIC	g tc o Se.	t cc r Pr	t ct o Le		atg Met 535	ggc Gly	ggc Gly	ttt Phe	gg Gl	а с у I	ctc Leu 540	1920
		c cc	g cc o Pr	t cc o Pr 64	t cado Gl:	g at	c ct e Le	c at u Il		aa a ys 2	aac Asn	acg Thr	cct	gt! Vai	c cc l Pr 65	t 0	gcg Ala	1968
aa As	t cc n Pr	t cc o Pr	g gc o Al 66	g ga .a Gl	g tt u Ph	t tc e Se	a gc r Al	t ac a Th		ag ys	ttt Phe	gct Ala	tca Sei	a tt r Ph 67	c at e Il 0	.e	acc Thr	2016
ca Gl	a ta n Ty	c to r Se	c ac		ga ca _y Gl	a gt n Va	g ag 1 Se 68	••	ig g	aa lu	att Ile	gaa Glu	tg Tr	g ga p Gl 5	g ct u Le	eu	cag Gln	2064
aa Ly	ia ga ys Gl 69	ia aa .u As		gc aa er Ly	ag co ys Ai	je to g Ti 69	p A	at c	cc g ro G	<sub>J</sub> aa Slu	gtg Val	caq Gl: 700	g ta n Ty O	c ac	a t	cc er	aat Asn	2112
T			aa t ys S	ct g er A	cc aa la As 7:	ac gt sn Va	tt gal A	at t sp P	tt a he 1	act Chr	gtg Val 715		c aa p As	c aa in As	at g sn G	ga ly	ctt Leu 720	2160
		ct g hr G	ag c lu P	ct c ro A	gc c rg P	cc a ro I	tt g le G	gc a ly T	cc hr	cgt Arg	tac Ty:	c ct	t ac u Th	ec co nr A	gt c rg P	cc.	ctg Leu	2208

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Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro 50 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp 65 70 75 80

Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg Tyr Asn His Ala 85 90 95

Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr Ser Phe Gly Gly 100 105 110

Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro 115 120 125

Leu Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Gly Lys Lys Arg 130 135

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly 145 150 155 160

Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr 165 170 175

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro 180 185 190

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Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe 285

260

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Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly 370 380

Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro 385 390 400

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Glu Glu Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp 420 425 430

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Asn Arg 435 440 445

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Phe Gly Thr Val Ala Val Asn Phe Gln Ser Ser Ser Thr Asp Pro Ala

		595			Ala		000														
	610				Leu	913															
625					His 630					_											
				645	Gln					•											
			660		Phe			005	•												
		675	1		Gln		000														
	690	)			Arg	693	ı														
705	)				Asn 710						-										
Туг	Thr	Glu	ı Pro	725	g Pro	ıle	e Gly	y Th:	r Ai 73	cg :	Гуr	Leu	ı T)	hr i	Arg	Pr 73	5	Leu			
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ga As	c to p Se	c to	c to r Se 20	r GI	c at y Il	c gg e Gl	c aa y Ly	ig ac /s Th 25		ggc	Gli	g ca n Gl	g (	ccc Pro	gc Al 30	t a a L	aa ys	aag Lys			96
Ar	g Le	eu As 35	sn Pr 5	ie G.	gt ca Ly Gl	n II	40	0	SP.		-			45						. 1	L44
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a ( T) 6	ca a		ct to la S	ca g er G	gc gg ly G	ry G	gc g ly A	ca c la P	ca ro	atg Met	gc Al 75		ac sp	aat Asn	aa As	ic (	gaa Glu	ggc Gly 80	? /	:	240

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gtc Val	aca Thi	a ac Th	r Il	c gc e Al	t aa a As:	t aa n As:	c cti n Lei 20	n in	c ago r Se:	c acc	g gti r Val	t ca 1 Gl 20	a gt n Va 5	c t	tc he	tcg Ser		624
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tt Ph	t ac e Th	r P	tc a he S 75	gc t er T	ac a yr T	cc ti nr Pl	ie G.	ag ga Lu G	aa gt Lu Va	ig co	ct ti		ac a is S 85	gc a	agc Ser	ta Ty	r	864
gc Al	a Hi	ac a is S	gc c er G	ag a ln S	gc c er L	eu A	ac co sp A 95	gg c rg L	tg at eu Mo	tg aa et A		ct c ro I 00	tc a eu I	tc le .	gac Asp	c ca Gl	a n	912
ta Ty 30	ic ci		at t yr T	ac c 'yr I	eu A	ac a sn A 10	ga a rg T	ct c hr G	aa a ln A	311 0	ag t ln S 15	cc g er (	gga a Sly S	gt	gco	c ca a Gl 32	a n 0	960

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	act Thr 385	Ala	atg Met	gcc Ala	tca Ser	cac His 390	aaa Lys	gac Asp	gac Asp	gaa Glu	gac Asp 395	1 -	tto Phe	tti Phe	t c e P	cc ro	atg Met 400	•	1200
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			g gc p Al	c aaa a Lys	a att s Ile 485	Pro	cac His	aca Thr	gat Asp	gg 61:	y	c tt s Ph	t ca e Hi	c co s Pi	eg i	tct Ser 495	cct Pro		1488
	ct Le	t at u Me	g gg t Gl	c gg y Gl; 50	y Phe	gga e Gly	a cto y Leo	c aag u Lys	g aad S Asi 50		g cc o Pr	t cc o Pr	t ca o Gl	ig at .n I: 5	tc le 10	ctc Leu	atc		1536
·	aa Ly	a aa 's As	c ac in Th	r Pr	t gt o Va	t cci	t gco	g aat a Asi 520	1 57	t cc o Pr	g gc o Al	g ga .a G]		et t ne S 25	ca er	gct Ala	aca Thr	٠	1584
	aa Ly	ıs Pi	t go ne Al	t tc a Se	a tt r Ph	c at e Il	c ac e Th 53	E GI	a ta n Ty	c to r Se	c ac		ga ca Ly Gi 40	aa g ln V	tg al	agt Sei	gtg Val		1632
	G]			aa tg Lu Tr	g ga p Gl	g ct u Le 55	u Gi	g aa n Ly	a ga s Gl	ia aa u As	,,,	gc a er L 55	ag c ys A	gc t rg T	gg rp	aat Asi	t ccc n Pro 560		1680

gaa g Glu V	/al	Gln	Туг	Thr. 565	Sei	AS	11 1	yr r	11 u	570	)					5	75		•	1728
act o	gtg Val	gac Asp	aac Asn 580	aat Asr	gga Gly	ct Le	t t eu T	у <u>-</u>	ct Thr 585	gag Glu	g C	ct c ro F	gc Arg	ccc Pro	at 11 59	t g e G	gc a	cc Thr		1776
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Arg		35						40												
Gln	50					•	, ,												•	
Thr 65	Met	Al	a Se	r Gl	.у G:	Ly (	Sly	Ala	Pro	M€	et	Ala 75	Asp	As	n P	Asn	Glu	Gly 80		
Ala	Asp	Gl:	y Va	1 G	Ly A	sn i	Ala	Ser	Gly	A:	sn O	Trp	His	Су	s 7	Asp	Ser 95	Thr		
Trp	Lev	ı Gl	y As	р А. 00	rg V	al	Ile	Thr	Th:	: S	er	Thr	Arç	y Th	r '	rrp 110	Ala	Leu		
Pro	Th	r Ту 11	r As	n A	sn H	is	Leu	Tyr 120	Lys	s G	ln	Ile	Sei	s Se	er . 25	Ala	Ser	Thr	•	
Gly	7 Al	a Se		sn A	sp A	.sn	His 135	Tyr	Ph	e G	lу	Туг	Se:	r Ti O	ar	Pro	Trp	Gl3		
Ту: 145	. Ph		sp Pl	ne A	.sn A	rg .50	Phe	His	. Су	s H	lis	Phe 155	s Se	r P.	ro	Arg	Asp	160	)	
Glr	n Ar	g Le	eu I	le F	sn <i>1</i> .65	Asn	Asn	Trp	Gl	у F	?he 170	Arg	g Pr	o L	ys	Arg	17!	a Ası 5	n	
Phe	e Ly	's L	eu P 1	he <i>F</i> 80	Asn :	[le	Gln	. Va.	l Ly 18	's (	Glu	(Val	l Th	r T	hr	Asr 190	n Asj	o Gl	у :	
Va	1 Th	r T	hr I 95	le A	Ala.	Asn	Asn	Le <sup>2</sup>	u Th O	ır :	Ser	Th	r Va	1 G 2	ln :05	Va]	L Ph	e Se	r	
As	p Se			'yr	Gln	Leu	Pro	ту	r Va	al	Let	ı Gl	y Se	er F	Ala	Hi	s Gl	n Gl	У	

210

Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe 245 250 250

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Phe Thr Phe Ser Tyr Thr Phe Glu Glu Val Pro Phe His Ser Ser Tyr 280 285

Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln 290 295 300

Tyr Leu Tyr Tyr Leu Asn Arg Thr Gln Asn Gln Ser Gly Ser Ala Gln 305 310

Asn Lys Asp Leu Leu Phe Ser Arg Gly Ser Pro Ala Gly Met Ser Val 325 330 335

Gln Pro Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val 340 345

Ser Lys Thr Lys Thr Asp Asn Asn Asn Ser Asn Phe Thr Trp Thr Gly 355

Ala Ser Lys Tyr Asn Leu Asn Gly Arg Glu Ser Ile Ile Asn Pro Gly 370 380

Thr Ala Met Ala Ser His Lys Asp Asp Glu Asp Lys Phe Phe Pro Met 385 390 395

Ser Gly Val Met Ile Phe Gly Lys Glu Ser Ala Gly Ala Ser Asn Thr 405 410 415

Ala Leu Asp Asn Val Met Ile Thr Asp Glu Glu Glu Ile Lys Ala Thr 420 425 430

Asn Pro Val Ala Thr Glu Arg Phe Gly Thr Val Ala Val Asn Phe Gln
435
440
445

Ser Ser Ser Thr Asp Pro Ala Thr Gly Asp Val His Ala Met Gly Ala 450 455

Leu Pro Gly Met Val Trp Gln Asp Arg Asp Val Tyr Leu Gln Gly Pro 465 470 480

Ile Trp Ala Lys Ile Pro His Thr Asp Gly His Phe His Pro Ser Pro 485 490 495

Leu Met Gly Gly Phe Gly Leu Lys Asn Pro Pro Pro Gln Ile Leu Ile 500 505

Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Ala Glu Phe Ser Ala Thr 515

Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val

530		5.							_	æ.		
Glu Ile G 545		550										
Glu Val G	56	5			0,0							
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acc tac Thr Tyr 50	aat aac Asn Asn	cac ctc His Leu	tac aa Tyr Ly 55	ag caa ys Glr	a atc n Ile	tcc a Ser S 6	gt gc er Al 0	t tca a Ser	acg Thr	Gly		192
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